Activity: Fossils – Meets the standard

Enquiry standards:

1.4 Work constructively and adaptively with others as a team on a scientific investigation

1.8 Identify, and make critical use of, secondary information

4.2 Follow instructions accurately but be able to adapt to unforeseen circumstances

**Instructions:**

* You have seven labeled fossil specimens. They range in age from 20 million to 400 million years.
* Use the reference sheets provided to identify each specimen.

Match the specimen with its group in the table below: **1.8**

|  |  |
| --- | --- |
| Major group | Write the letter on the matching specimen(s) in the space below. |
| Arthropod | C, E |
| Brachiopod | A |
| Cephalopod | G, F |
| Echinoderm | D |
| Chondrichtyes | B |

* Use your own knowledge, or refer to the *Fossils Eyewitness guide* to answer the questions which follow:

1. Megalodon was reconstructed from a very large tooth. Do you think the reconstruction is realistic? **4.2 Maybe it is overestimated**

Why? **4.2 Depends on where in the jaw the tooth came from.**

**(any yes/no answer with plausible reason is acceptable)**

1. Name two other groups of animals (apart from starfish) that are related to heart urchins. **1.8**

Any **two of** sea urchins, sand dollars, crinoids, brittle stars, sea cucumbers

1. Living sea urchins may be found today. How does a heart urchin feed? **1.8**

“They extract food particles from the sediment as they burrow through it.”

1. What does the name ‘trilobite’ refer to? **4.2**

**The fact that the body is separated into three lobes laterally. Most people incorrectly assume it refers to the head, thorax, abdomen arrangement of most arthropods.**

1. When did trilobites become extinct? **1.8**

End of Permian/250 mya

1. In what way are belemnites and ammonites similar? **1.8**

They are both squid-like/octopus-like/predators/intelligent/have internal shell etc (**one** similarity)

1. What is one major difference between modern squid and the extinct belemnites? **1.8**

Modern squid lack the chalky shell of belemnites.

1. Although brachiopods resemble seashell they are not mollusks. State **one** difference between the two groups. **4.2**

**Brachiopods have upper & lower valves, a lophophore and a muscular animal. Bivalve molluscs have lateral valves and no lophophore. The animal is muscular.**